

Long Island Botanical Society

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The Quarterly Newsletter

Summer 2004

Betty Lotowycz Awarded LIBS Distinguished Service Award

Barbara Conolly

Grace E. "Betty" Lotowycz warmly deserves the first Long Island Botanical Society Distinguished Service Award. She was not only one of the founding members of LIBS (in March 1983) but she has been an enthusiastic contributor at its field trips, regular meetings and Flora Committee meetings ever since.

Betty graduated from Vassar with a BA in Botany and subsequently became a curatorial assistant at the Brooklyn Botanic Garden under Professor Arthur H. Graves.

In 1943, she left the Botanic Garden to join the WASPS and became a test pilot at a cadet training field until her unit was disbanded in December 1944. During this time she married Bill Lotowycz (pronounced Luh-TOE-vitch), who was then flying seaplanes.

After the war, Bill worked for Pan Am, and they lived in Damascus, Syria, from 1947-49. Eventually she and Bill settled on Long Island where they raised their four daughters.

Betty was curator of the herbarium at Planting Fields Arboretum for 22 years, retiring in June 1984. In that position, she built up the collection of pressed plants to approximately 10,000 specimens, a significant contribution to the botany of Long Island.

In addition she taught classes in woody plants, led field trips, did inventories and was the botanical information bureau for the Arboretum, responding to every telephone query and puzzling over the identification of every crumpled piece of plant she was handed.

Andy Greller states that she was brilliant at plant identification. In the 1970s he handed her a "crazy pile" of unidentified exotics he had collected from Cunningham Park and was astonished that she identified them immediately. He found her to be very competent in the field and fun to be with.

Her efficiency at adding to the herbarium was



Photo by John Potente

"Betty" Lotowycz and her Distinguished Service Award

frequently noticed on field trips when a newly discovered plant specimen would suddenly become detached: "Well, look at that! It came right off in my hand."

Bob Zaremba recalls that he had barely identified *Scleria pauciflora* (Nutrush) at Weekes' Pond on one occasion before she had it in her bag for the herbarium!

Bob remembers that Betty was one of the knowledgeable people he contacted when he first

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Long Island Botanical Society

Founded: 1986 Incorporated: 1989

The Long Island Botanical Society is dedicated to the promotion of field botany and a greater understanding of the plants that grow wild on Long Island, New York.

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Society News

At the LIBS annual barbecue on June 8, President **Eric Lamont** presented **Betty Lotowycz** with the first Long Island Botanical Society Distinguished Service Award. Twenty-nine members and friends attended.



LIBS Webmaster **Donald House** has announced that the new LIBS website is now at: www.LIBotanical.org. The website includes upcoming programs and current news, and will soon include back issues of the newsletter.



LIBS member **Steve Clemants** has been named Historian of the Torrey Botanical Society, thought to be the oldest botanical society in the country. At the May LIBS meeting, Steve presented a program on John Torrey, the Father of Botany in the United States.



Skip Blanchard reports: Last year **Rich Kelly** found a mustard at Caumsett State Park that he was unable to identify in Gleason and Cronquist. This year, he and Skip Blanchard found it at Caleb Smith State Park while scouting out the park prior to their LIBS/Torrey field trip. Rich was able to pin down its identity by reference to a European wildflower guide. The plant is Narrow-leaved Bittercress (*Cardamine impatiens*), and apparently is a recent introduction. What is interesting, and perhaps alarming, is that Skip found the plant this year in Oyster Bay Cove and at Planting Fields Arboretum, and **Barbara Conolly**—who brought a specimen of it to our June barbecue for identification—found it in her garden.

Skip says, "When an introduced plant like this appears so suddenly and in so many places, it inevitably causes one to think of Garlic Mustard and the problem that it has become." Photographs of the plant and plant parts can be found at www.bioimages.org.uk.



On a May 8 field trip, at Caleb Smith State Park, LIBS members identified *Botrychium oneidense* as well as five kinds of clubmosses: *Lycopodium digitatum*, *L. dendroideum*, *L. obscurum*, *L. X habereri* and *Huperzia lucidula*.



On a May 23 field trip to Planting Fields Arboretum, **Jenny Ulsheimer** discovered two specimens of the white form of Lady's Slipper.



Rich Kelly reports that on June 5, Bastard Toadflax *Comandra umbellata* was found at the F.A.A. grasslands in Sayville.



Barbara Conolly notes the appearance of *Geranium sibiricum* (Siberian Geranium) in Coffin Woods and *Viola conspersa* (Dog Violet) at Shu Swamp.

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came to Long Island to do Heritage work for The Nature Conservancy in 1984. She was very willing to help him, knew where the plants were and often accompanied him to show him their location.

I recall one eventful exploration of Jones Pond with Bob in which we ended up wading into a section of quaking bog. I remember that I was carrying both a camera and binoculars, making it a rather scary venture, as the bottom of the pond was about five feet below the hummocks.

My prayers were heard as I managed to keep my optics above water. But Betty was not so lucky and fell in. . . which elicited the comment that if she had known what we were in for she would have worn her nylon underpants! (Bob, we noted, had worn a bathing suit.)

Carol Johnston's immediate recollection of Betty was an occasion in the field on a Planting Fields Arboretum expedition involving Bob Titus, Carol, Joanne Knapp, and Gordon Jones who drove the group to the Frick place in Roslyn (now the Nassau County Museum) in search of an *Evodia* tree which they were very anxious to see.


As Gordon began to park the car, Betty looked up and cried out: "There's that Hot Damn

Tree!" which so startled Gordon that he accelerated in reverse and hung the car up on a rock.

Betty had no lack of enthusiasm for finding plants in the field and the fond recollection of several of us was when LIBS had an extended field trip to the Smoky Mountains in Tennessee during Wildflower Week in April 1989.

We were led on a side trip to the White Oak Sink valley where we were told we might see Fairy Wand (*Chamaelirium luteum*) in bloom, a plant Betty had never found in the wild. We were a rather noisy and interactive group, and had noticed a dignified couple from Tennessee who seemed a bit taken aback by our behavior.

Suddenly Betty spied the object of the quest and shouted, "Hot damn! There's the Fairy Wand!" and flung herself on a rock to take a better look. At this point, the lady of the couple laid her head on her husband's shoulder and murmured softly, "Honey, ah told you they were from Noo Yawk."

Betty has moved from "Noo Yawk" to Boulder, Colorado, now and we miss her enormously at LIBS. Maybe someday we can persuade her to lead us to some of those wonderful "Hot Damn!" Rocky Mountain plants! 

Barbara Conolly is the recording secretary for the Long Island Botanical Society.



Photo by Barbara Conolly
Betty on the Heldeburg Escarpment trip,
April 24, 1999

A Wolf in Sheep's Clothing

Ray Welch

The encounter was abrupt, the outcome dismaying. In the late '90's I was jogging on an exercise trail, rounded a corner, and saw before me a tangle of stout vines, just now taken down from trailside trees, the stalks thick as broomsticks, furred with aerial roots, oozing a blackish sap from the cut ends.

It was, of course, Poison Ivy (*Toxicodendron radicans*), left there by a careless maintenance crew. I saw the pile, knew instantly what it was, but unable to stop quickly enough, made an effort to jump over the heap. I nearly made it, but my left shin brushed against one stalk.

Though always wary, I had long been immune to Poison Ivy as far as I knew. Now, however, it was clear that some previous exposure had sensitized me, and I soon had the classic Poison Ivy dermatitis: several square inches of my leg skin reddening, blistering, itching, oozing and crusting, for over two weeks.

I say "classic," since the earliest European settlers were aware of the peril of the plant. Captain John Smith, in 1620, wrote that it was a "poisonous weed, being in shape but little different from our Eng-

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lish yvie; but being touched causeth redness, itching; and lastly blysters.” (Quoted in Warren, 1933).

Smith got it right, but that I was another confirmation to the accuracy of at least his clinical observations was little comfort (I don’t much see the English Ivy aspect aside from the aerial roots). Eventually the misery waned, although the skin stayed discolored for a few months, and from time to time, even a year later, there were occasional bouts of faint itching at the spot.

Every good Long Island naturalist knows how to identify the plant at all times—spring’s tender reddish new leaves in the standard three leaflets; summer’s glossy elegance and the greenish, lightly fragrant flowers (to a careful nose); the flamboyant colors of fall; the whitish berries and ashy and irregular stalks of winter; the thick and furry vines clambering up tree trunks in every season.

Certain brash gardeners, English usually, have long had a place for this plant in their gardens. Aside from “What *were* they thinking?” certain questions came to mind. What is the poison? How does it create so volcanic a reaction? Is there any adaptive significance to the poison? I was itching for explanations.

Long Island has at least two representatives of the genus *Toxicodendron*: *T. radicans* and *T. vernix* (Poison Sumac).

T. radicans is nearly ubiquitous from beachside dune crests to streamside festoons on trees, but *T. vernix* is far less common (although reportedly much more dangerous), and I see it only occasionally, always as a small, nondescript tree in a swamp, lovely only in



Flowering Poison Ivy

Photo by Ray Welch

the fall when its leaves kindle to scarlet.

T. pubescens (Poison Oak), I have never seen, although it is indicated as found in Suffolk County at the web site of the Brooklyn Botanic Garden, and is said to be present on Long Island by Gleason and Cronquist. Skip Blanchard, however, thinks Gleason and Cronquist may be mistaken, and Eric Lamont says he has also never seen it locally.

The taxonomy of *Rhus*/*Toxicodendron* does not seem fully settled yet, but one clear point is that a plant is a *Toxicodendron*, not a *Rhus*, if the plant contains *urushiol*, the toxic material responsible for the dermatitis.

Urushiol is found in many members of the Anacardiaceae, beyond species of *Toxicodendron*. Urushiol is present in mangoes, cashews and certain tropical hardwoods, and people can contract rashes from them.

In Malaya some trees in the family are considered unsafe to sit under, lest raindrops bring down some of the toxic sap on people sheltering beneath. Urushiol, however, is actually a blanket term for a class of several molecules, all being the phenolic (benzene ring) compounds called catechols, the ring with a side chain of carbon atoms 15 to 17 in length.

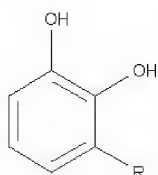
The urushiol in Poison Ivy is a 15-carbon one, pentadecylcatechol (Web References 1 and 2). This then is what urushiol is, but why is it so dangerous?

Paradoxically, urushiol by itself is not toxic. The dermal catastrophe is a result of a deluded human immune system. When the skin is exposed to urushiol, some of it diffuses in and forms covalent bonds with proteins of the skin, such as keratin and other cell-surface proteins.

This new complex of protein with urushiol alters the nature of the proteins from “self” to “not-self” and so triggers an elaborate defense response. Useful—essential!—in protecting the body from invading bacteria and viruses, the immune system unfortunately cannot make fine-spun distinctions, and so is

PENTADECYLCATECHOL:

$R = C_{15}H_{31}, C_{15}H_{29}, C_{15}H_{27} \text{ and } C_{15}H_{25}$



Example of urushiol molecule

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at the root of many allergies, and Poison Ivy is an allergic reaction.

In the human, the cells called T-cells initiate this response. Sensitized by a previous exposure to urushiol, these cells swiftly rouse on this subsequent exposure, and quickly ignite the immune response. The alerted T-cells pour out molecules called cytokines; these stimulate the white blood cells called monocytes to convert to macrophage cells that now attack the skin cells displaying the “wrong” protein.

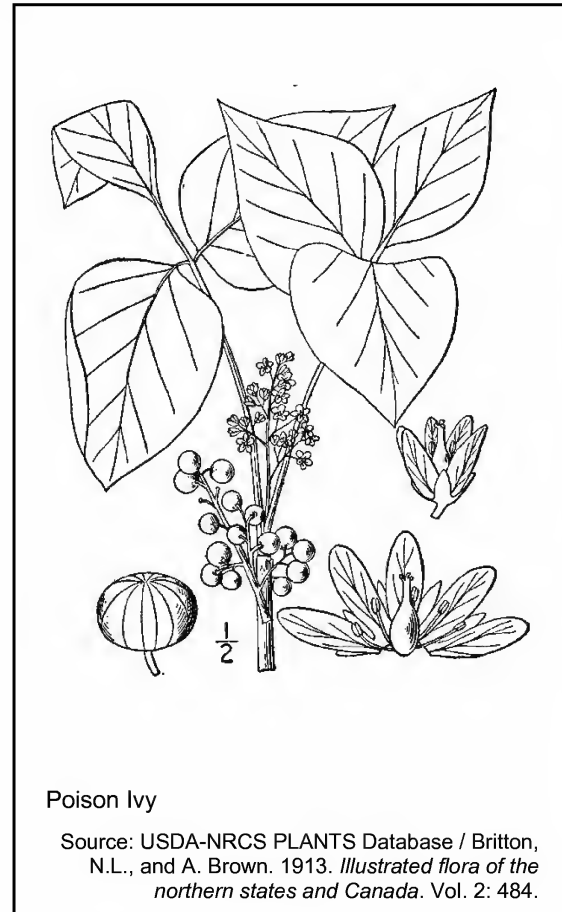
This leads to the grisly result of tissue destruction involving the affected cells and all the damage seen in Poison Ivy dermatitis. Sheep in wolf's clothing, indeed! (Web Reference 3). How, then, does this response benefit the Poison Ivy plant?

Alfalfa lies, rooted to the spot, helpless under the eye of an approaching hungry cow. Yet not all plants are so supine. Plants are clever organic chemists, the best in the world. From carbon dioxide, water, sunlight, and mineral salts, they make a dizzying array of complex molecules, and many of these are clearly defensive (Whittaker and Feeny, 1971).

Certainly, the “fight or flight” response to threats that animals favor is not one that plants are good at. Yet natural selection is ever at work, and the plant world is full of Lucrezia Borgias—alkaloids, cyanogenic glycosides, oxalates, mustard oils, and more, have evolved in one plant group or another. Has urushiol, then, evolved as a defense against hikers, gardeners, and unwary suburbanites? I have seen or heard of many sad cases, as have most of us.

Strangely, observation shows that Poison Ivy is fed on with impunity by many animals. Birds eat the fruits, deer graze the leaves (Martin, Zim and Nelson, 1951); indeed, among mammals only humans and their close primate relatives seem susceptible to its terrible effects.

Although the genus is now more common in Asia than North America, it evolved in North America, and fossil leaves millions of years old of the genus are



known from the American West (Web Reference 4).

The interaction of humans and the genus in the New World has been only about 10,000 years. It is not sufficient, then, to infer that the toxicity of the plant is the result of natural selection involving human beings and *Toxicodendron*. It is, apparently, in the end, just an accident. Poison Ivy bears us no ill will.

A more likely explanation for the benefit of urushiol is that the phenolics, of which urushiol is a representative, are often anti-fungal or anti-microbial compounds (Levin, 1971). The evolutionary interaction between bacteria and fungi and higher plants is ancient, and, as far as survival and reproduction goes, a mold is more of a threat to the well-being of Poison Ivy than mankind.



Photo by Ray Welch

“Leaves of three...” Poison Ivy leaves

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Still, I do note that Poison Ivy appears to make it through the summer in better shape than many other species, which in August are tattered from insect herbivory. So perhaps urushiol deters some arthropods, but with other mechanisms than an immune system run amok.

Despite my unfortunate entanglement in the woods, I don't look at Poison Ivy as some kind of malevolent green rattlesnake. Let it trail from trees along our rivers; let it romp at the roadside; let it wave from the top of dunes. It is native, it is handsome, it is beneficial to wildlife, it is a success story.

"Live and let live—at a meter's distance" is my attitude towards *T. radicans*. This, by the way, is a philosophy I developed from scratch. ☞

Print References:

- Levin, D. A. 1971. Plant phenolics: an ecological perspective. *American Naturalist*, Vol. 105, No. 942: 157-181.
- Martin, A. C., H. S. Zim and A. L. Nelson. 1951. *American Wildlife and Plants*, pp. 336-337. Dover Publications, New York [1961 reprint].

- Warren, L. E. 1933. Poison ivy and poison sumac. *Scientific Monthly*, Vol. 37, No. 2: 169-173.
- Whittaker, R. H. and P. P. Feeny. 1971. Allelochemicals: chemical interactions between species. *Science*, Vol. 171, No. 3973: 757-770.

Web References:

- No. 1: <http://www.herbalgram.org/wholefoodsmarket/herbalgram/articleview.asp?a=959>
[somewhat of an alternative health site, but the Poison Ivy info seems OK]
- No. 2: <http://whfreeman.com/RAVEN/content/rv22/rv22pe01.htm>
- No. 3: <http://www.bio.umass.edu/immunology/poisoniv.htm>
- No. 4: <http://bss.sfsu.edu:224/courses/Fall01%20projects/poisonoakfinalwebsite.htm>
[a student paper, thorough and with some good references]

Ray Welch has been a Professor in the Biology Department at Suffolk County Community College since January of 1968.

Some Interesting Plant Sightings

Dr. Andrew Greller

I am reporting some interesting plant sightings at two beaches on Long Island.



At Sunken Meadow State Park I found two small trees of *Quercus phellos* growing in a disturbed sandy area north of the boardwalk at the extreme east end. One tree was about four to five feet tall, the other was larger and widely branched, seven to eight feet tall. They are probably local escapes from acorns dropped by willow oaks that I found planted as landscape elements near the eastern bridge over the creek that borders the beach parking lots.

Just north of the earthen dam on the creek, at the east end of the last beach parking lot, I also found a small stand of *Prunus pensylvanica*, the Pin Cherry or Fire

Cherry. Most of the small trees were bearing immature fruits. I had seen them in flower a week ago or so. The smooth purplish bark with prominent lenticels make it easy to identify. There were specimens of all sizes.



Earlier in the week, on May 18, I found a single plant of *Tradescantia virginiana*, the Spiderwort. It was in a small sand dune near the eastern bathhouse, off the boardwalk. The plant was about 18 inches tall, somewhat fleshy, looking like an onion, except for the blue flowers terminating the stem.



On May 13, I went to Alley Park, Queens, to look for *Claytonia virginica*, Spring Beauty, which I found in three large patches (50



Prunus pensylvanica or Pin Cherry

Source: USDA-NRCS PLANTS Database / Britton, N.L., and A. Brown. 1913. *Illustrated flora of the northern states and Canada*. Vol. 2: 328.

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meters square total) under native oaks. The area is mowed regularly because it is just behind a New York City Parks & Recreation playground adjacent to a junior high school, at the edge of the park.



I also found *Claytonia* abundant in shaded lawns in the southeastern section of Pelham Bay Park, Bronx, on Saturday, May 15. It is a swampy area of pin oaks, bitternut and sweetgum. The understory is planted with grass and receives regular mowing along the asphalt paths.



Dr. Andrew M. Greller is Professor Emeritus in the Biology Department of Queens College in Flushing.



Claytonia virginica

Photo by Jennifer Anderson @
USDA-NRCS PLANTS Database



Field Trips

SUNDAY, JULY 11 AT 9:00 A.M.

Calverton Ponds, Suffolk County, New York

Trip Leaders: Tom Cullen and Jenny Ulsheimer

Calverton Ponds is a 350-acre preserve filled with many rare plants and wildlife including the Tiger Salamander and Banded Sunfish. Because it is located in the Pine Barrens region we will find Scrub Oak, Pitch Pines and other native species. There are a lot of ticks so please be prepared.

Directions from the LIE: Take Exit 70, Manorville-Eastport. At the end off the off ramp go north. (You will pass the Manoville trail information center on the right side of the road.) Travel .25 miles to Ryerson Avenue (the Manorville post office is on the corner). Go right on Ryerson, crossing the railroad tracks, .2 miles to North Street. Go right on North Street for .2 miles. Road curves to the left, becoming Wading River Manor Road. Follow Wading River Manor Road north .8 miles to Old River Road (Not RIVER ROAD). Go right on Old River Road .4 miles to the small parking area on the left with the wooden gate. (Please do not block the gate).

SATURDAY, AUGUST 7, 2004 9:00 A.M.

Tiffany Creek Preserve, Oyster Bay Cove,

Nassau County, New York

Trip Leader: Al Lindberg

Tiffany Creek Preserve offers an assemblage of ecological communities within the oak forest. Descending through glacially formed ravines, Tiffany Creek's oak hilltop and upland meadow provide excellent examples of the mid-slope community. Tuliptree, red oak and red maple dominate its low slope which descends to the wetland interface. At the northeast border of the preserve lies a wet meadow with a diverse plant community. This fine example of an oak forest, ranging from hilltop habitats through its associated wetland community, forms a natural area unique within Nassau County's preserve system. The trip may run a little past noon, bring lunch and beverage if you want.

Directions: From the Long Island Expressway take Exit 41 North (Routes 106 & 107). Take Route 106 north to Northern Boulevard (Route 25A). Take Northern Boulevard east, two traffic lights to Berry Hill Road Turn left and take Berry Hill Road approximately 3/4 of a mile to Sandy Hill Road. Go straight onto Sandy Hill Road where Berry Hill Road turns sharply to the left. The Preserve entrance is on Sandy Hill Road, the first driveway on the left. Meet at the Preserve parking area.

More Field Trips



SATURDAY, AUGUST 28, 9:30 A.M.*Brookhaven State Park (undeveloped)**Ridge, Suffolk County, New York*

Trip Leader: Skip Blanchard

The site includes pine barrens vegetation in various stages of development, the Tarkill Pond complex, and two ponds that are extensions of Lake Panamoka, which is just east of the park boundary. Visits in 2003 turned up such rarities as *Utricularia radiata*, *Coreopsis rosea*, *Eleocharis melanocarpa*, *Lobelia nuttallii*, *Oldenlandia uniflora*, and *Stachys byssopifolia*, as well as two rare dragonflies, a rare butterfly and a rare tiger beetle.

Directions: From the Long Island Expressway, take Exit 68 (William Floyd Parkway) north. Exit at Route 25 and go east for about 1.8 miles to where power lines cross the highway. Park on the left side (there is sometimes a hot-dog wagon there). Some of us will voluntarily get our feet wet, although it is probably not necessary. We will return by early afternoon at the latest, but some kind of portable food and drink are probably a good idea. Ticks are likely but not guaranteed.

SUNDAY, SEPTEMBER 12 9:30 A.M.*Mashomack Preserve, Suffolk County, New York*

Trip Leader: Jenny Ulsheimer

About 1/3 the size of Shetler Island, this 2100-acre preserve is home to grassy meadows, a pine swamp, tidal creeks, woodlands, and a dense population of breeding osprey.

Directions: Take your best route to Shelter Island. When disembarking from the Greenport/North Ferry follow Route 114 three miles south to the preserve. If you are coming by way of the North Haven/South ferry follow Route 114 one mile north to the Preserve. The entrance is marked by a large wooden sign on the east side of Route 114.

Letters to the Editor, Articles, and News

items may be submitted to:

Margaret Conover

Long Island Botanical Society

PO 507

Aquebogue, NY 11931



Upcoming Programs

September 14, 2004* Tuesday, 7:30 p.m.

BOB CERRATO: "BENTHIC HABITAT MAPPING IN THE PECONIC BAYS."

This program addresses characterizing the bottom and understanding the factors that are important to bottom dwelling organisms, as well as natural processes and histories. Bob is a professor of Biological Oceanography at Stony Brook University. The program is from a study that Bob has done with colleagues Roger Flood, Steve Goodbred, and Nicole Maher, and has been funded by The Nature Conservancy, the EPA, Suffolk County, and New York State.

Location: Museum of Long Island Natural Sciences
Earth and Space Science Building
Gil Hanson Room (Room 123)
SUNY at Stony Brook, Stony Brook

* Refreshments and informal talk begin at 7:30 p.m.
Formal meeting starts at 8:00 p.m.

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Long Island Botanical Society

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